MTIAC

MTIAC's scope of responsibility includes:

- Above the Shop Floor Systems
- Agile Manufacturing
- Artificial Intelligence
- Benchmarking
- Best Commercial Practices
- Computer Aided Manufacturing
- Computer Aided Design
- Computer Integrated Manufacturing
- Concurrent Engineering
- Factory Automation
- Integrated Product & Process Development
- Machine Tools
- Manufacturing Economics & Finance
- Pollution Mitigation
- Production Methods
- Production Processes
- Productivity
- Robotics
- Simulation
- Tooling

Manufacturing technology is the foundation of the production capabilities of the U.S. industrial base. The U.S. industrial base supports both civilian and defense needs, and MTIAC assists all components of this manufacturing community. Manufacturing technology is a broad discipline that includes all aspects of the manufacturing cycle, from design through production and to include post-production support. The MTIAC staff engineers and information professionals have the knowledge and experience to support the varied requirements of all components of the industrial base.

MTIAC fulfills its mission to operate as a full-service IAC through a combination of engineering expertise and technology transfer capability. MTIAC draws directly on the technical resources of the IIT Research Institute, and numerous affiliated organizations to offer broad-based technical support to MTIAC users. MTIAC has more than 10 years of experience in all aspects of technology transfer. This experience is in traditional areas of information dissemination—inquiry response, technical reports, and newsletters as well as more innovative approaches—Internet, predictive modeling, and customer-tailored programs. MTIAC also provides program technical support, organization of technical symposia, and industrial base surveys.

TATs & *Products*

Current Awareness Reports

MTIAC creates profiles and selects databases for weekly, semi-weekly, or monthly reports on new products and industry news. Using information sources from the federal government, MTIAC-created alert services have also covered regulation, legislation, procurement, and contract awards for selected products and services. Customers can have electronic delivery of current information on such topics as electronic commerce security measures, the use of body scanning in the apparel industry, and machine tool procurements.

North American Microwave Power Tube Industry

In support of the DoD ManTech Subpanel on Electronics Processing and Fabrication, MTIAC reviewed and assessed the domestic microwave power tube industry, with emphasis on the implementation of flexible manufacturing or other advanced manufacturing techniques. The DoD's objective is to ensure an affordable, reliable, and responsive supply of new and replacement tubes for military systems for the next 20 years. MTIAC covered the technical aspects of the industry including materials, processes, and modernization efforts with a focus on the manufacturing philosophy.

Soldier Support

To maintain surge capability in the U.S. apparel industry and the U.S. food production industry, the Defense Logistics Agency has established the Apparel Research Network (ARN) and the Combat Rations Network (CORANET), which are innovative programs in academic and industrial apparel and ration research. Each network aims to improve the cost, quality, and delivery time of such items as military uniforms and meals ready to eat (MRE). MTIAC plans and manages regular workshops, assists in technical planning, publishes technical proceedings, oversees communication via E-mail, and maintains Web sites for these programs.

Laser Material Database for Cutting/Welding

This database features machining data for cutting a variety of materials using NdYAG and CO_2 lasers. The data elements include various material thickness, cutting speed, the amount of power used, the focus spot diameter of the laser beam, the assist gas pressure utilized, focal length distance, and the material processing data reference source.

This database also includes a predictive model for use when actual data are not available. The database is available in both DOS and Windows format.

State-of-the-Art in Rapid Prototyping

This report provides an overview of four rapid prototyping technologies that use laser radiation to fabricate metal parts. These are selective laser sintering, an electro-optical system for rapid prototyping of injection molding tooling, directed light fabrication, and powder cladding. Also included is a listing of leading vendors and researchers in this field.

Directory of Manufacturing Research Centers

This directory includes descriptions of more that 200 U.S. Centers engaged in manufacturing related research. Each of these centers not only performs research, but also is available in some capacity to the overall manufacturing community. The directory includes, for each center, the location, mission, key personnel, sponsorship, and technical scope.

DoD Manufacturing Technology Archives

MTIAC has acquired and archived a wide range of DoD Manufacturing Technology (ManTech) publications. These include meeting and conference proceedings from the tri-services, ManTech Project Books, Committee and SubCommittee reports, technical reports, newsletters, informational brochures, and other miscellaneous publications.

For a listing of products, prices, availability, and distribution limitations, contact MTIAC or visit our Web site at **http://mtiac.iitri.org**

In the near future, MTIAC's URL will change to http://iac.dtic.mil/mtiac

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